

Directions: All questions must be completed on loose leaf. A calculator is allowed. Please reduce any fractions to lowest terms. Place a box around your final answer. **ALL WORK MUST BE SHOWN FOR FULL VALUE.**

Part A: Please answer all questions.**/12**

1) Evaluate:

2 marks each

a) $\left(-\frac{3}{5}\right) \div \left(\frac{-12}{-7}\right) \div \left(-2\frac{1}{10}\right)$

b) $(4 - 2) \div 2 \times 9 + 14 \div 7 - 2$

2) Given the following information:

4 marks

- a) Complete the table
- b) Describe in words the pattern of the relation
- c) Write the equation for the pattern
- d) Graph the relation

x	y
1	7
2	12
3	
5	27

3) Solve the following inequalities: 2 marks each

a) $-3x + 8 < 5 - 7x$

b) $\frac{1}{4}s - 6 \leq -2$

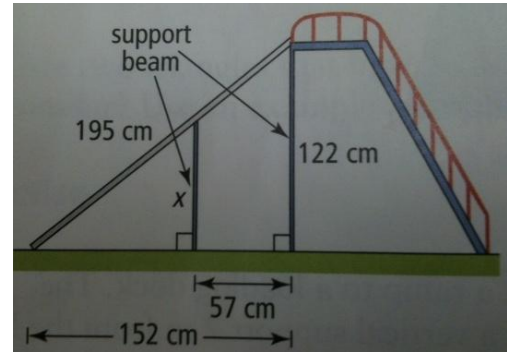
Part B: Please answer all questions. 3 marks each**/12**

- 1) Lorna took three of her friends to visit the zoo. The bus fares cost \$5.50 per person. The cost of admission to the zoo was the same for each person in the group. Lorna spent \$109 altogether on fares and admission. What was the cost of each admission?

- a. Write an equation
- b. Answer the question.

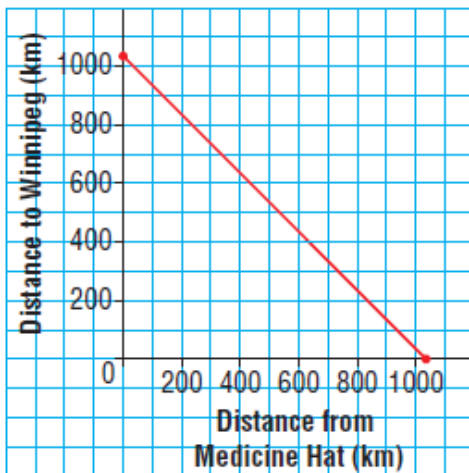
- 2) Erin, who is 1.60 m tall, casts a shadow that is 1.25 m long. Her shadow extends to the end of a tree's shadow when she stands 4.75 m from the tree. What is the height of the tree?

- 3) Sara was helping her father assemble a slide for a local park. He decides to reinforce the slide with an extra support beam. How long should the extra support beam be?



- 4) Harold and Jenny are driving from Medicine Hat to Winnipeg. The graph shows the distance travelled and the distance yet to go.

Journey from Medicine Hat to Winnipeg



- a) About how far is it from Medicine Hat to Winnipeg? How can you tell from the graph?
 b) When Jenny and Harold have travelled 450 km, about how far do they still have to go?

Part C: Complete question 1 and choose any 2 of the remaining 3 questions.
 4 marks each /12

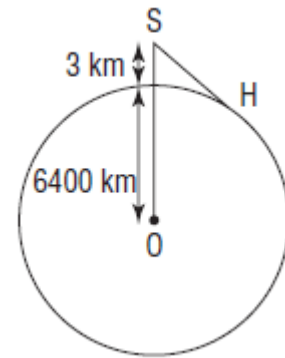
1) Solve:
$$\frac{2(x-1)}{3} - \frac{5(x-2)}{2} = \frac{3(4-x)}{4} + 1$$

(If a fraction - then leave in fraction form)

2) Precipitation is moisture that falls in the form of rain or snow. The relationship between the depth of rain, r , and depth of snow, s , that results from equal quantities of precipitation is $\frac{r}{s} = 0.1$

- a) If a storm delivers 15.5 cm of snow, what depth of rain would result from the same amount of precipitation on a warmer day?
- b) If a storm delivers 2.7 cm of rain, what depth of snow would result from a same amount of precipitation on a colder day?

3) A skydiver, S , jumps from a plane at an altitude of 3 km. The radius of Earth is approximately 6400 km. How far is the horizon, H , from the skydiver when she leaves the plane? Calculate this distance to the nearest kilometre.



- 4) A parking lot charges a flat rate of \$3.00 and \$1.75 for each hour or part of an hour of parking.
- a) Create a table of values for the first 8 hours of parking.
 - b) Create an equation that models this situation.
 - c) How much would it cost to park for 4 hours?
 - d) How long can you park for \$15.25?